Distr. Limited
25 January 1999

Original: English

THIRD UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

Preparations for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) by the Advisory Committee

Recommendations of the regional preparatory conferences for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space

Contents

		Paragraphs	Page
I.	Introduction	1-3	2
II.	Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Asia and the Pacific	4-40	2
	A. Organization of work	42	2
	B. Recommendations	5-40	2
	1. The Earth and its environment	5-14	2
	2. Communication and navigation systems	15-23	3
	3. Benefits of space exploration, including the role of microsatellites	24-25	4
	4. Education and training	26-31	4
	5. International cooperation	32-40	4
III.	Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Africa and the Middle East	41-76	5
	A. Organization of work	41	5
	B. Recommendations	42-76	5
	1. The Earth environment	43-52	5
	2. Communication and navigation systems	53-62	6
	3. Small satellites, spin-off benefits and information	63-68	7
	4. Education and cooperation	69-76	7

V.99-80483 (E)

I. Introduction

1. The General Assembly, in its resolution 52/56 of 10 December 1997, endorsed the report of the Committee on the Peaceful Uses of Outer Space on the work of its 40th session,[1] which included the recommendation of the Preparatory Committee for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) that the United Nations Programme on Space Applications should organize, as part of its programme of regular activities in 1998 and 1999, regional preparatory meetings for UNISPACE III.[2] At its thirty-fifth session, in 1998, the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space took note of the status of the regional preparatory meetings for the regions of Africa, Asia and the Pacific, and Latin America and the Caribbean and recommended the approval of the programme for conferences and meetings for 1999, including the regional preparatory meeting for eastern Europe (A/AC.105/697 and Corr.1, paras. 25 (c), (g) and (j) and 32 (h)). The Subcommittee, acting as the Advisory Committee for UNISPACE III, adopted the report of the Working Group of the Whole, which had been reconvened at the 1998 session to assist the Advisory Committee in the preparatory work for UNISPACE III (A/AC.105/697 and Corr.1, paras. 54 and 55). In its report, the Working Group of the Whole noted that, if consensus recommendations were adopted at the regional preparatory meetings, those recommendations would be considered by the Advisory Committee at its 1999 session for inclusion in the draft report of the Conference (A/AC.105/697 and Corr.1, annex II, para. 42).

2. Regional preparatory conferences for UNISPACE III were convened in Kuala Lumpur from 18 to 22 May 1998 for the region of Asia and the Pacific, in Concepción, Chile, from 12 to 16 October 1998 for the region of Latin America and the Caribbean, and in Rabat from 26 to 30 October 1998 for the regions of Africa and western Asia. A similar regional preparatory conference will be held in Bucharest from 25 to 29 January 1999 for the region of eastern Europe.

3. The present document contains the recommendations made by the regional preparatory conferences for Asia and the Pacific and for Africa and the Middle East, for consideration by the Advisory Committee at its 1999 session. The recommendations made by the regional preparatory conferences for Latin America and the Caribbean and for Eastern Europe will be issued separately (A/CONF.184/PC/L.5/Add.1). The organization of work, including the procedure taken to prepare and adopt the recommendations, is summarized for each regional preparatory conference.

II. Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Asia and the Pacific

A. Organization of work

4. The recommendations of the Regional Preparatory Conference for UNISPACE III for Asia and the Pacific were prepared based on the discussions conducted separately on the following four themes: "The Earth and its environment"; "Communication and navigation systems"; "Benefits of space exploration, including the role of microsatellites"; and "Education, information and cooperation". During the discussion on each theme, the speakers invited by the Office for Outer Space Affairs of the Secretariat made presentations on various topics of interest to the region, including possible recommendations and proposals to be made by the Regional Preparatory Conference. Following the presentations, discussions were held on those recommendations and proposals. The recommendations of each discussion were compiled by the rapporteur for consideration in the plenary meeting. After the conclusion of the discussions, all the recommendations were considered by the Regional Preparatory Conference for adoption.

B. Recommendations

1. The Earth and its environment

5. The recommendations adopted by the Regional Preparatory Conference for Asia and the Pacific are contained in paragraphs 6-40 below, and in the report on the Regional Preparatory Conference (A/CONF.184/PC/2). The Office for Outer Space Affairs made an effort to compile the recommendations in such a manner as to facilitate their review by the Advisory Committee at its 1999 session for possible inclusion in the draft report of UNISPACE III. Duplication and overlapping in the recommendations have, therefore, been eliminated to the extent possible.

6. In view of the contributions of remote sensing and related technologies towards the well-being of the global community, the promotion of international cooperation in the development and use of remote sensing technologies should be accorded priority in the agenda of UNISPACE III.

7. The Committee on Earth Observation Satellites should give serious consideration to the standardization of spectral aspects of sensors, data formats and other characteristics of the ground segment, in order to contribute to the development of Earth observation systems, especially in order to meet the emerging needs of countries in the region of Asia and the Pacific.

8. Member States should enhance consultations among themselves in planning future Earth observation programmes. They should also fully utilize and enhance research and information networking to promote the exchange of data and research results in the International Geosphere-Biosphere (Global Change) Programme and related Earth studies.

9. Policy and decision makers should be better informed about the immense potential of satellite remote sensing and related technologies for the effective management of resources and, in particular, for disaster prevention and mitigation.

10. Member States in the region should formulate appropriate space-related policies and strive to play an effective role in the delivery of value-added services.

11. Member States should follow a unified approach to developing a standard format for the acquisition, processing and handling of remote sensing data.

12. Satellite operators should maintain reasonable continuity of their services.

13. In view of the existence of problems encountered in implementing regional cooperative efforts involving data exchange and technology transfer owing to differences in national policies and priorities, Member States should develop more workable and acceptable mechanisms to facilitate coordination and cooperation in that area.

14. The Regional Preparatory Conference for Asia and the Pacific agrees that any regional programme should include the exchange of data and the sharing of information derived from data analysis.

2. Communication and navigation systems

15. Member States should take advantage of emerging space techniques by "leapfrogging" into advanced telecommunications systems.

16. The Regional Preparatory Conference for Asia and the Pacific recommends that satellite operators and service providers should reduce the cost of systems and services for space communications in developing countries in the region. The Regional Preparatory Conference notes that the private sector has an important role to play in that effort.

17. Satellite capabilities should be exploited to maximize their use in assisting in rural development. The private satellite communications industry should also adequately deal with such urgent needs.

18. The public and private sectors of industry should cooperate in the development of space communications technology and its applications. The Regional Preparatory Conference for Asia and the Pacific recommends that each country in the region should provide the necessary conducive environment by enacting appropriate legislation in order to promote investments.

19. Member States should, to the extent possible, share space as well as ground segment capabilities.

20. The international satellite organizations should take into account the needs and limitations of the countries in Asia and the Pacific in future space communications systems and applications. In this connection, the Regional Preparatory Conference for Asia and the Pacific recommends that such entities as the International Telecommunications Satellite Organization (INTELSAT), the International Mobile Satellite Organization (Inmarsat) and other space communications entities should provide communications satellite capacity with the aim of promoting regional space-based services.

21. Member States should be active players in the space communications industry and not just users of space communications technologies.

22. Local telecommunications infrastructure should be developed using local expertise, with assistance from both regional and international organizations.

23. The role of the Asia Pacific Satellite Communications Council, as a regional forum for formulating a

collective stand to deal with the issues of frequency planning and coordination, as well as training, should be strengthened by Member States in the region.

3. Benefits of space exploration, including the role of microsatellites

24. The Regional Preparatory Conference for Asia and the Pacific recommends that Member States in the region, particularly developing countries, should work together in the development of microsatellites.

25. Recognizing that microsatellites provide a new and affordable opportunity for regional cooperation and space capacity-building, the Regional Preparatory Conference for Asia and the Pacific recommends that countries in the region should be fully engaged in the development of low-cost microsatellite and mini-satellite programmes.

4. Education and training

26. Member States should implement public awareness programmes, especially in primary and secondary schools, focusing, *inter alia*, on the value of space technology in everyday life. The programmes should also target decision makers and planners and other potential users to make them aware of the relevance of space technology applications in various socio-economic sectors.

27. The Regional Preparatory Conference for Asia and the Pacific notes that the self-sustaining financial status of the Centre for Space Science and Technology Education in Asia and the Pacific is essential to the fulfilment of its goals and objectives. Member States should take full advantage of the educational facilities offered by the Centre. The Centre should continually adjust its curriculum and teaching facilities to respond to developments taking place in space technology, especially those directly related to the needs of the countries in the region.

28. The Centre and other similar institutions and facilities in Asia and the Pacific should provide region-specific education and opportunities to share experiences to scholars in the region at an affordable cost and without posing many logistical problems.

29. The development of self-learning tools such as electronic media and computer-based modules in education and training should be consistent with the requirements of user countries in the region.

30. There should be political will at the national level to give the highest priority to education in general and space science education in particular.

31. A network of educational facilities providing education and training in space science and technology at the postgraduate level should be developed to meet the increasing need in the region for adequately educated and trained human resources.

5. International cooperation

32. Action must be initiated to promote intensive cooperation among Member States in the region to enable them to benefit from space technology applications by sharing experiences and expertise. In this connection, the Regional Preparatory Conference recognizes that substantive joint projects provide a good basis for regional cooperation, the success of which will depend on enhanced national activities and programmes.

33. The Regional Preparatory Conference for Asia and the Pacific emphasizes that, in order for regional cooperation to succeed, higher levels of investment will be needed in the social sector, including in human resource development. The Regional Preparatory Conference agrees that Member States in the region should share their experiences in different areas of space technology for the development of human resources, through the exchange of technical information and education packages.

34. The Regional Preparatory Conference for Asia and the Pacific recommends that, in order to advance the state of space research and development activities in the region, Member States should allocate more funds to such activities.

35. The Regional Preparatory Conference for Asia and the Pacific agrees that the formation of a regional space agency should be approached in a step-by-step manner and that comprehensive preparatory work will have to be carried out.

36. Member States should fully utilize existing mechanisms of regional and international cooperation such as the Regional Space Applications Programme for Sustainable Development in Asia and the Pacific of the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Committee on Earth Observation Satellites. The coordination involving the United Nations Programme on Space Applications and ESCAP should be further strengthened.

37. Given the wide diversity among the countries in Asia and the Pacific, which include many developing countries, the United Nations should play a more active role in the coordination of space-related activities in

the region, with a view to fostering international cooperation.

38. Future satellite programmes in Asia and the Pacific should be formulated on a goal-oriented basis, by all concerned, taking into account the needs of the region.

39. The Regional Preparatory Conference for Asia and the Pacific recognizes the immediate need for adequate space-based communications, disaster monitoring and disaster evaluation facilities for the Pacific island nations. It notes the possibility of those nations using space-based communications systems to facilitate the exchange of relevant data. The Regional Preparatory Conference recommends that ESCAP should lead the initiative to assist the Pacific island nations in that endeavour.

40. The Regional Preparatory Conference agrees that UNISPACE III should affirm that space-based services for search and rescue, disaster monitoring and management, and weather-related uses should be free of commercial considerations.

III. Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Africa and the Middle East

A. Organization of work

41. The recommendations of the Regional Preparatory Conference for UNISPACE III for Africa and the Middle East were prepared based on the discussions conducted separately on four themes "The Earth environment"; "Communication and navigation systems"; "Small satellites, spin-off benefits and information"; and "Education and cooperation". During the discussion on each theme, the speakers invited by the Office for Outer Space Affairs made presentations on various topics of interest to the region. Each was followed by a discussion, during which recommendations, observations and specific proposals were made by the participants. The observations and recommendations were compiled by a working group consisting of a limited number of interested participants, including those who had served as the chairperson and rapporteurs during the discussion. All the observations and recommendations were subsequently adopted by the Regional Preparatory Conference.

B. Recommendations

42. The recommendations adopted by the Regional Preparatory Conference for Africa and the Middle East are contained in paragraphs 43-76 below, and in the report on the Regional Preparatory Conference (A/CONF.184/PC/4). The Office for Outer Space Affairs consolidated the recommendations in order to facilitate their review by the Advisory Committee at its 1999 session. Duplication and overlapping in the recommendations have, therefore, been eliminated to the extent possible.

1. The Earth environment

43. In order to give adequate consideration to environmental and resource management issues in the regions of Africa and the Middle East, there should be direct participation and active involvement of those regions in international activities and programmes related to Earth observation.

44. The appropriate scientific and technical committees of the Economic Commission for Africa (ECA) and the Economic and Social Commission for Western Asia (ESCWA) should cooperate closely to enhance capacity-building in remote sensing and mapping centres already in existence in the regions in the areas of human resources, infrastructure development, acquisition of equipment and policy regulations.

45. The regions of Africa and the Middle East are not totally covered by Earth observation ground receiving stations. The regional commissions of the Economic and Social Council that are responsible for the two regions (ECA and ESCWA) should work with affected countries to ensure that the coverage gap is closed.

46. At present, there are four Earth observation ground receiving stations, located in Italy, Saudi Arabia, South Africa and Spain, that are able to receive data on several African and Middle Eastern countries. The owners of those stations and the countries that are within their footprints should study the feasibility and desirability of operating the stations on a regional basis. (South Africa is proposing to make its station available for such a regional operation.)

47. Member States are encouraged to put in place prospective, proactive, and participatory science and technology policies and to implement space strategies, including the necessary annual budget allocations, in order to derive maximum benefit and to contribute towards enhancing the standard of living of their people.

48. Member States should facilitate and encourage the participation of the private sector in all aspects of space industry development and related applications.

49. Scientific and research institutions in both Africa and the Middle East should foster scientific collaboration with Earth observation satellite operators in order to ensure that future Earth observation remote sensing systems meet the specific and unique needs of the two regions.

50. There are numerous space technology-related application projects, both in the operational phase and in the planning phase, that are funded by donor countries and international organizations, including United Nations entities. In order to maximize the beneficial impact of those projects, it is critical that the concerned donors, organizations and the countries benefiting from the projects coordinate and harmonize such development projects and programmes. The United Nations, as well as ECA and ESCWA, should play a leading role in coordinating and harmonizing development projects.

51. ECA and ESCWA should work with Member States in the two regions to determine the ability of the Member States to participate effectively in Earth observation projects.

52. The United Nations, in conformity with the Principles Relating to Remote Sensing of the Earth from Outer Space (General Assembly resolution 41/65, annex, of 3 December 1986) and other legal instruments governing space activities, should ensure that all countries enjoy equal access to data and other information from Earth observation satellites.

2. Communication and navigation systems

53. ECA and ESCWA should set up an interregional committee (for Africa and the Middle East) to coordinate and promote workshops and expert group discussions aimed at the formulation of regional policies and of coordinated positions at international forums and to increase public awareness of issues relating to satellite communications.

54. Member States should ensure that global telecommunications designers and operators take into consideration the interests and priorities of the local communities and the telecommunication authorities and relevant bodies of the countries where they operate.

55. In conformity with the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (General Assembly resolution 2222 (XXI), annex, of 19 December 1966) and other related legal instruments, the United Nations and the International Telecommunication Union (ITU) should guarantee the equal rights of all countries in access to and use of space. Geosynchronous orbital slots for countries and regions that do not yet have the capacity to use those slots should be reserved as a matter of right.

56. ITU should facilitate the coordination of orbital slots between countries in Africa and the Middle East and international organizations.

57. The United Nations should ensure that there are no restrictions on the accuracy of data, information and technology of global positioning systems and other satellite navigation systems, or on the availability of such systems, in particular for use in civil aviation.

58. Member States of the two regions are hereby encouraged to support fully and to participate actively in the activities of the regional centres for space science and technology education that are being established under the auspices of the United Nations in Morocco, Nigeria and the Middle East, with a view to building indigenous capability in space science and technology in all countries in the regions concerned.

59. The United Nations should ensure that no unnecessary restrictions are placed on Member States that are developing their own launch facilities, in particular when such facilities are in conformity with the criteria for the peaceful use of outer space.

60. ITU should ensure that experimental frequencies are reserved specifically for the purposes for which they are used at present. The specific frequencies to be reserved include, but are not limited to, the following: 18.6 and 18.8 GHz, used for the measurement of soil, moisture and vegetation; and the frequency band 174.8 and 191.8 GHz, centred on 183.3 GHz, used for vertical sounding of atmospheric properties, such as humidity.

61. African Member States should support and encourage regional communication establishments, such as the Regional African Satellite Communication Organization (RASCOM), in their efforts to provide and operate regional satellite communication programmes.

62. African Member States should support the development of an inter-African connection for, among others, telephony, data, tele-education, tele-medicine and the Internet. In this connection, African countries, the United Nations and other members of the international community are called upon to support fully and to

contribute to the realization of the project on the cooperative information network linking scientists, educators, professionals and decision makers in Africa (COPINE), an initiative of the Office for Outer Space Affairs of the Secretariat.[3]

3. Small satellites, spin-off benefits and information

63. Member States in the regions of Africa and the Middle East are urged to formulate clear policies on science and technology, including space-related aspects, and to endow such policies with inalienable political will and an implementation programme so that African and Middle Eastern societies may reap the attendant dividends upon active participation in appropriate science and technology programmes.

64. In spite of the tremendous advances that have been achieved in the applications of space technology in the last 20 years, socio-economic development in Africa is yet to be as much affected by this technology as in other parts of the world. One major reason for this undesirable situation is lack of commitment. In order to redress the situation, it is thus recommended that a joint African-Middle Eastern leadership conference, at the level of either heads of State or ministers, should be organized by the Office for Outer Space Affairs, with a view to increasing the awareness of space technology development and its impact on social and economic development, preferably before UNISPACE III.

65. Member States should make effective use of their indigenous scientific personnel and give them every support, so that they can forge tangible research and development linkages and enter into joint ventures with institutions and industries that have acknowledged capabilities in space science and technology, as well as encourage the private sector to invest in such joint ventures.

66. Member States should invest in the development of the necessary knowledge and skills in their citizens in different aspects of space science and technology, in particular through their participation in the development, design and production of small satellites, with a view to gaining an understanding of the technology and the subsequent use of such satellites for various socio-economic applications, bearing in mind the relatively low cost of designing, constructing, launching and operating small satellites. Programmes on small satellites could be carried out through regional collaboration.

67. Member States should at all times take advantage of the opportunities available through a variety of international programmes, such as the United Nations Programme on Space Applications, and should respond promptly to requests of the Office for Outer Space Affairs, especially with regard to participation in meetings, conferences and training courses organized by the Office, so that they can keep abreast of the latest developments in space science and technology.

68. Member States should request advanced countries to eliminate discriminatory measures in the licensing of space technology to the regions of Africa and the Middle East.

4. Education and cooperation

69. Member States in the regions of Africa and the Middle East should mobilize efforts to formulate or strengthen national space policy within the context of their science and technology programmes. Such policies should integrate optimal use of space technology tools with a view to socio-economic development.

70. The importance of sensitizing national policy makers to the applications of space technology cannot be overstressed. Multimedia tools should be used at the national level to make such campaigns attractive.

71. In utilizing space applications for educational purposes, emphasis should be placed on the development of educators and trainers, who would then be in a better position to prepare appropriate curricula for distance education, flexible learning and continuing education.

72. A virtual university allows flexibility to evolve in accordance with the changing needs of a region. It prevents duplication of effort and facilitates uniformity in training. It also provides expertise that may not exist in one particular region and can be shared with other regions. Recognizing that there are many providers of content for distance education, priority should be placed on creating the relevant infrastructure in order to gain access to the immense amount of pre-existing resources for education and training.

73. Member States should take advantage of existing projects and experiences in the field of tele-education and virtual universities, so that African and Middle Eastern countries can be prepared for the information age.

74. Member States should take advantage of the Space Generation Forum at UNISPACE III. The Forum, to be organized by the alumni of the International Space University, will provide the opportunity for aspiring,

emerging and established space-faring nations to develop the necessary skills, knowledge and contacts among their young and promising space professionals for future advancement.

75. With the aid of new information technologies, Member States should participate actively in the exchange of space-related experiences and knowledge by creating networks of specialists within regions or countries.

76. The United Nations should establish, as a matter of urgency, a special fund within the Office for Outer Space Affairs to assist in the implementation of the recommendations of UNISPACE III.

Notes

[1] *Official Records of the General Assembly, Fifty-second Session, Supplement No. 20* (A/52/20).

[2] Ibid., para. 153.

[3] The COPINE project proposal to establish an efficient communications network among African professionals and scientists at the national and regional levels resulted from the recommendations of the Conference on Space Technology for Sustainable Development in Africa, held in Dakar in October 1993.

Distr.: Limited
11 February 1999
Original: English

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Recommendations of the regional preparatory conferences for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space

Addendum

Contents

		Paragraphs	Page
I.	Introduction	1-3	2
II.	Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Latin America and the Caribbean	4-8	2
	A. Organization of work	4-5	2
	B. Recommendations	6-8	2
	1. Regional interests and concerns	7	3
	2. Global interests and concerns	8	3
III.	Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Eastern Europe	9-41	3
	A. Organization of work	9	3
	B. Recommendations	10-41	4
	1. The Earth and its environment	11-16	4
	2. Communication and navigation systems	17-22	4
	3. Benefits of space exploration, including the role of microsatellites	23-27	4
	4. Information and education	28-34	5
	5. International cooperation	35-41	5

V.99-80939 (E)

I. Introduction

1. The General Assembly, in its resolution 52/56 of 10 December 1997, endorsed the report of the Committee on the Peaceful Uses of Outer Space on the work of its fortieth session,[1] which included the recommendation of the Preparatory Committee for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) that the United Nations Programme on Space Applications should organize, as part of its programme of regular activities in 1998 and 1999, regional preparatory meetings for UNISPACE III.[2] At its thirty-fifth session, in 1998, the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space took note of the status of the regional preparatory meetings for the regions of Africa, Asia and the Pacific, and Latin America and the Caribbean and recommended the approval of the programme for conferences and meetings for 1999, including the regional preparatory meeting for eastern Europe (A/AC.105/697 and Corr.1, paras. 25 (c), (g) and (j) and 32 (h)). The Subcommittee, acting as the Advisory Committee for UNISPACE III, adopted the report of the Working Group of the Whole, which had been reconvened at the 1998 session to assist the Advisory Committee in the preparatory work for UNISPACE III (A/AC.105/697 and Corr.1, paras. 54 and 55). In its report, the Working Group of the Whole noted that, if consensus recommendations were adopted at the regional preparatory meetings, those recommendations would be considered by the Advisory Committee at its 1999 session for inclusion in the draft report of the Conference (A/AC.105/697 and Corr.1, annex II, para. 42).

2. Regional preparatory conferences for UNISPACE III were held in Kuala Lumpur from 18 to 22 May 1998 for the region of Asia and the Pacific; in Concepción, Chile, from 12 to 16 October 1998 for the region of Latin America and the Caribbean; in Rabat from 26 to 30 October 1998 for the regions of Africa and western Asia; and in Bucharest from 25 to 29 January 1999 for the region of eastern Europe.

3. The present document contains the recommendations made by the regional preparatory conferences for Latin America and the Caribbean and for eastern Europe, for consideration by the Advisory Committee at its 1999 session. The organization of work, including the procedure taken to prepare and adopt the recommendations, is summarized below for each of those regional preparatory conferences. The recommendations made by the regional preparatory conferences for Asia and the Pacific and for Africa and the Middle East are contained in document A/CONF.184/PC/L.5.

II. Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Latin America and the Caribbean

A. Organization of work

4. The recommendations of the Regional Preparatory Conference for UNISPACE III for Latin America and the Caribbean were prepared based on discussions conducted in two working groups established by the Regional Preparatory Conference. While the one working group considered issues relating to the environment and natural resources, as well as disaster management, the other working group considered issues relating to communications, microsatellites, basic space science and education. In each working group, speakers nominated by the Governments of the participating Member States made presentations on various topics of interest to the region, including proposals for possible recommendations to be made by the Regional Preparatory Conference. Subsequently, the working groups conducted discussions on the proposals.

5. The Regional Preparatory Conference for Latin America and the Caribbean elaborated the Concepción Declaration in order to provide an overall policy framework for the recommendations. The task of preparing the text was entrusted to a drafting group consisting of representatives of all the participating Member States in the region of Latin America and the Caribbean. The Regional Preparatory Conference adopted the Concepción Declaration, which was subsequently submitted to the General Assembly at its fifty-third session (A/C.4/53/8).

B. Recommendations

6. The Regional Preparatory Conference for Latin America and the Caribbean noted the excellent work done by the working groups in identifying areas of priority interest to the countries in the region in various fields of space activity. On the basis of the results of the discussions in the working groups, the countries of Latin America and the Caribbean decided to submit the recommendations presented in paragraphs 7 and 8 below and in its report (A/CONF.184/PC/3), for review by the Advisory Committee for UNISPACE III.

1. Regional interests and concerns

7. It was recommended that action be taken:

(a) To create and/or strengthen governmental institutional mechanisms for ensuring the satisfactory development of space activities and to promote the participation of all interested sectors, thus fostering cooperation with a view to contributing effectively to resolving socio-economic problems in Latin America and the Caribbean;

(b) To enhance, through regional, interregional and international cooperation mechanisms, the capacities of countries in the region by means of training in the field of space science and its applications in environmental management, within a balanced social and economic setting;

(c) To identify and establish, through the competent national authorities, focal points for the exchange of information and dissemination of the results of regional and interregional projects, in the areas of environmental studies, natural resources and disaster management, in which the various sectors of society concerned with such issues participated;

(d) To foster the creation of multidisciplinary committees that would promote education across the entire spectrum of space sciences in primary schools, secondary schools and universities and to generate training and research opportunities, in particular for professionals in remote areas;

(e) To identify potential sources of funding and international financing bodies to provide support with a view to including space science and technology in academic curricula at the different educational levels;

(f) To encourage, with the assistance, *inter alia*, of the United Nations Programme on Space Applications, the participation of professionals from the region in international research and development programmes;

(g) To foster the use and integration of space data and other information within the programmes and activities of public institutions in countries in the region, for the purpose of publicizing technological advances, with emphasis on the fields of satellite communications and microsatellites;

(h) To promote the production of risk-microzoning maps (microseismicity, hydrometeorology, urban and rural pollution, interferometry etc.) through access to and use of satellite imaging and geographical information systems;

(i) To encourage and support regional and interregional coordination in the field of education with a view to permitting the development of and access to applications of space science and technology, thus permitting the exchange of teaching materials and experience within the field of education, including distance-learning programmes, for the benefit of all sectors of society;

(j) To promote the participation of countries in the region in education projects with a space-related component, such as education workshops within the scope of the Common Market of the Southern Cone (MERCOSUR), and to promote the organization of other regional workshops within the framework of the United Nations Programme on Space Applications.

2. Global interests and concerns

8. It was recommended that action be taken:

(a) To give priority to specific cooperation projects in the field of space that would make an effective contribution to developing the potential of States in terms of human, technological, economic and training resources, in the interests of achieving the best possible results;

(b) To facilitate the timely and effective use of the information obtained through space technology as a basic input into the decision-making process, in the public sector and in the private sector;

(c) To increase the interlinking of telecommunications, remote sensing and space information systems in order to maximize the effectiveness of initiatives directed towards the sustainable development of States;

(d) To establish, during the decade 2000-2010, a comprehensive strategy for the use of space technology for risk evaluation and for prevention, mitigation and reduction activities in disaster management;

(e) To promote the use of space technology for the purpose of achieving a global understanding of climatic phenomena, such as El Niño events, and of taking appropriate prevention measures.

III. Regional Preparatory Conference for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space for Eastern Europe

A. Organization of work

9. The recommendations of the Regional Preparatory Conference for UNISPACE III for Eastern Europe were

prepared based on discussions conducted separately on four themes: "The Earth and its environment"; "Communications and navigation systems"; "Benefits of space exploration, including the role of microsatellites"; and "Information, education and cooperation". During the discussion on each theme, the speakers invited by the Office for Outer Space Affairs of the Secretariat made presentations on various topics of interest to the region. Each was followed by a discussion, during which recommendations, observations and specific proposals were made by the participants. The observations and recommendations were compiled by a working group consisting of a number of interested participants, including those who had served as the chairperson and rapporteurs during the discussion. All the recommendations were subsequently adopted by the Regional Preparatory Conference.

B. Recommendations

10. The Regional Preparatory Conference for Eastern Europe invited UNISPACE III to consider the recommendations presented in paragraphs 11-41 below and in the report on the Regional Preparatory Conference (A/CONF.184/PC/5).

1. The Earth and its environment

11. Activities involving scientific research and practical applications in the field of remote sensing by satellite should be strengthened.

12. Regional systems for environmental monitoring of the Black Sea and the Caspian Sea, especially for oil slicks, ship traffic, ecology and climate change, should be developed, making use of remote sensing by satellite.

13. Cooperation between the national space agencies in eastern Europe and the World Meteorological Organization should be enhanced in order to meet the need for data on global change and to participate actively in the definition of the future Earth observing mission concept.

14. National Earth observation programmes and existing cooperation mechanisms such as the Committee on Earth Observation Satellites and the Integrated Global Observing Strategy partnership should be strengthened.

15. International organizations should assist Member States in the region in acquiring methodologies for remote sensing by satellite, including software packages.

16. Decision makers, at all levels, should be encouraged to learn about the practical application of remote sensing in the national development activities for which they are responsible.

2. Communication and navigation systems

17. Each State should increase the involvement of its qualified personnel in research and industrial development in current and future programmes for the utilization of space techniques and technologies.

18. The training and education of staff, especially young medical personnel, such as physicians and nurses to be involved in telemedicine projects, should be coordinated. Interested States in the region should participate, to the extent possible, in existing telemedicine networks, such as the SHARED and EUROMEDNET projects, supported by the Italian Space Agency (ASI) and the European Space Agency.

19. The Office for Outer Space Affairs should create a data bank on commercial space projects in general and on commercial telecommunication system projects in particular. The data bank could be used to maintain information on such activities as telecommunication systems in low, middle and geostationary orbits. Such a data bank would enable each State to learn about the latest developments and meet its needs in that area and to invest its resources more appropriately.

20. Taking note of the existence of tables identifying the purposes and characteristics of active satellites in the geostationary orbit and the services provided by those satellites, the Regional Preparatory Conference for Eastern Europe recommended that that information be distributed as a background document at UNISPACE III.

21. Member States in the region should increase their awareness of satellite navigation by participating in or hosting workshops or conferences.

22. Interested States in eastern Europe should seek participation in the European Geostationary Navigation Overlay System.

3. Benefits of space exploration, including the role of microsatellites

23. Member States in eastern Europe should fully cooperate in space research and space exploration and should maintain the high standards already achieved in space science research, education and related applications.

24. The Regional Preparatory Conference for Eastern Europe recommended the development of small satellite projects as the best strategy for Member States in the region interested in developing the space industry, because of the reasonable cost and duration of such projects.

25. As a consequence of the evolution of space-related technologies, the Regional Preparatory Conference for Eastern Europe recommended the joint development, construction and operation of a variety of small satellites offering opportunities to develop indigenous space industry as a suitable project for enabling space research, technology demonstrations and related applications in communications and Earth observation. Member States in the region should seek the necessary support for such ventures.

26. Given the importance of and growing trends towards the commercialization of space-related services, such as satellite telecommunication, the use of global location and navigation systems and Earth observation applications, the Regional Preparatory Conference for Eastern Europe recommended that Member States in the region should identify essential mechanisms for fostering the involvement of the private sector in space application activities.

27. In order to promote spin-off benefits and effective space applications, particularly in the case of emerging space-faring countries in the region, the Regional Preparatory Conference for Eastern Europe recommended that Member States in the region should increase their capacity to understand the associated technologies and to place a high priority on their development at the national level. Each State should enhance its basic and advanced research capabilities in the relevant disciplines.

4. Information and education

28. The science and technology policies of Member States in the region should promote the use of space technology for sustainable development.

29. With the support of new information technology, Member States in the region should actively participate in the exchange of practical experience and knowledge in complementary sectors by creating networks of specialists within regions or countries.

30. National institutions and/or organizations involved in space science, technology and applications should use the Internet to develop programmes for distance teaching in the field of Earth observation, particularly in such areas of application as meteorology, hydrology and environmental protection.

31. The core institutions of the network of space science and technology education and research institutions for central eastern and south-eastern Europe should develop joint projects including both scientific and technological aspects, as well as educational and training aspects, on a multidisciplinary basis. The promotion of education at the primary and secondary levels should also be considered among the important goals of future activities of the network. Beyond a mutual exchange of information, the Regional Preparatory Conference for Eastern Europe recommended alternative activities such as student contests and summer courses within the framework of the network.

32. The core institutions of the network should develop a satellite communications infrastructure, including appropriate terminals located in each country at the core institution, for distance learning and the on-line exchange of information of regional interest.

33. Member States in eastern Europe should develop a microsatellite programme devoted to operational uses such as hazard monitoring of the region, with long-term spin-offs in the promotion of space science, technology and applications. The results of the programme could significantly contribute to new research and development, including high-level education and training in space-related fields.

34. The use of space applications for educational purposes should focus on, *inter alia*, developing programmes for educators and trainers that would put them in a better position to prepare appropriate curricula for flexible learning and continuous education.

5. International cooperation

35. The United Nations should provide adequate resources for the implementation of the recommendations of UNISPACE III.

36. In order to support the necessary and meaningful exchange of information on space-related activities between States in the region, the Regional Preparatory Conference for Eastern Europe recommended that Member States in the region ensure the establishment and maintenance of a regional database, in cooperation with established national institutions and relevant international organizations.

37. Member States in eastern Europe should be encouraged to actively cooperate and participate in the international scientific and technological research programmes on the International Space Station, as their involvement could provide major economic and social benefits for the region.

38. Because scientific meetings had proved to be essential mechanisms for strengthening regional cooperation, the Regional Preparatory Conference for Eastern Europe recommended that Member States in the region should take the necessary steps to ensure the organization of such scientific meetings on a regular basis, as appropriate, among their established scientific and research institutions and

professional organizations relating to space science and technology.

39. The Regional Preparatory Conference for Eastern Europe recommended that Member States in the region should take advantage, through international cooperation, of the complementarity of satellite systems for increasing opportunities in space science, technology and applications.

40. With reference to the issue of space debris, the Regional Preparatory Conference for Eastern Europe recommended that the United Nations should ensure that a good balance is achieved between the necessity to preserve outer space for future space activities and the need to maintain conditions for current space activities. The Regional Preparatory Conference also recommended that both the space agencies and the global scientific community should play an important role in helping the United Nations to achieve that goal.

41. UNISPACE III should discuss legal aspects of space activities, review and assess the current status of space law and promote its further progressive development based on the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (General Assembly resolution 2222 (XXI), annex, of 19 December 1966). In studying those and other issues, the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space should continue to cooperate with other intergovernmental and non-governmental organizations dealing with space law.

Notes

[1] *Official Records of the General Assembly, Fifty-second Session, Supplement No. 20* (A/52/20).

[2] Ibid., para. 153.